

Oscilloscope I (C, D, E)

Name: _____ Section: 4BL-____ Date performed: ____/____/____

Lab station: _____ Partners: _____

Oscilloscope # _____

Part C

(Q-14) Describe what you observe and explain:

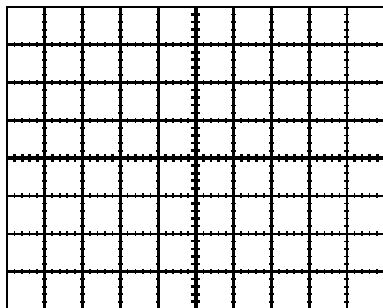
(Q-15) Describe what you observe and explain:

DC mode: $V_{pp}(20 \text{ Hz}) = \underline{\hspace{2cm}}$ $V_{pp}(5 \text{ Hz}) = \underline{\hspace{2cm}}$

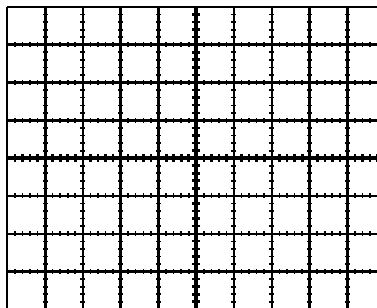
AC mode: $V_{pp}(20 \text{ Hz}) = \underline{\hspace{2cm}}$ $V_{pp}(5 \text{ Hz}) = \underline{\hspace{2cm}}$

(Q-16) Sketch the square wave trace in DC mode and AC mode and explain:

DC mode



AC mode



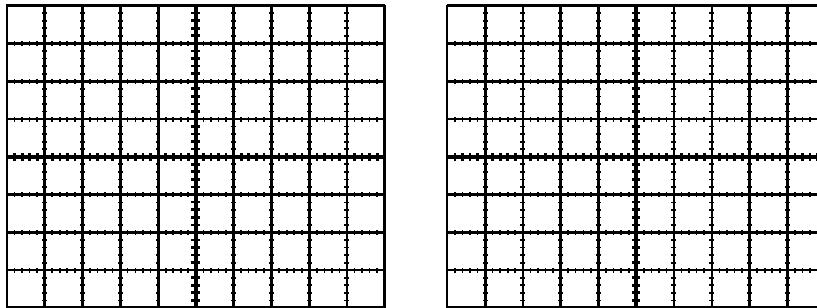
Part D

(Q-17) Describe what you observe and explain:

(Q-18) Describe what you observe and explain:

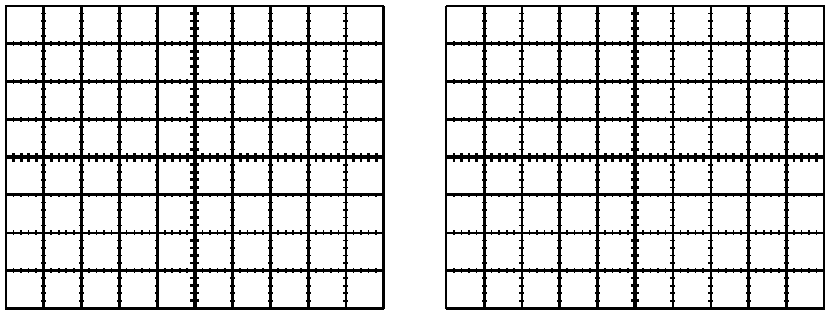
Part E

(Q-19) Sketch the trace at two different trigger levels, and explain:

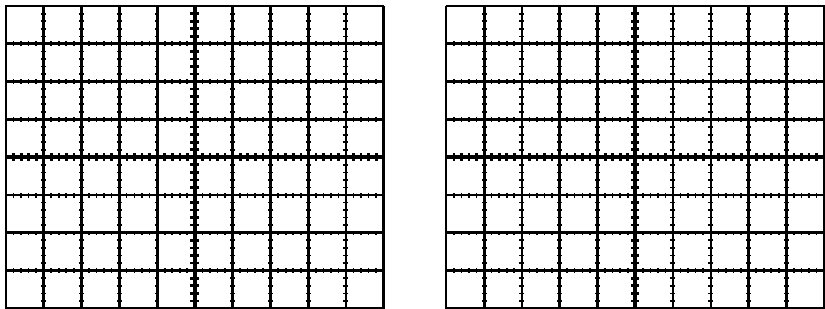


(Q-20) Describe what you observe and explain:

(Q-21) Repeat (Q-19) with the square wave and explain:



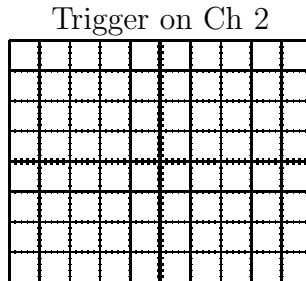
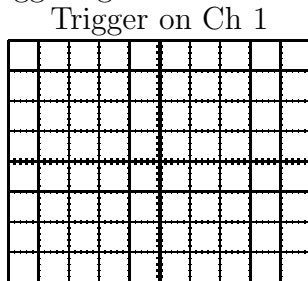
(Q-22) Sketch the trace twice: once with \int and once with ∇ . Explain:



(Q-23) Describe what you observe and explain:

Time (and equipment) permitting...

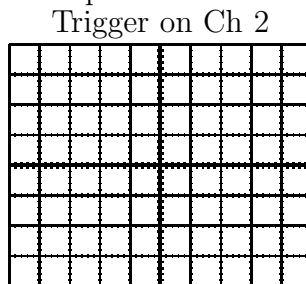
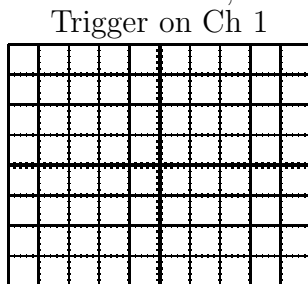
Connect a second function generator to Channel 2 and set the oscilloscope to display both channels. Set the two function generators to almost (but not quite) the same frequency. Switch triggering between Channel 1 and Channel 2. Describe what you observe and explain:



$$f_1 = \underline{\hspace{2cm}}$$

$$f_2 = \underline{\hspace{2cm}}$$

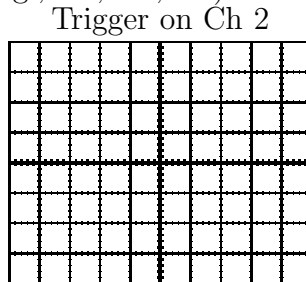
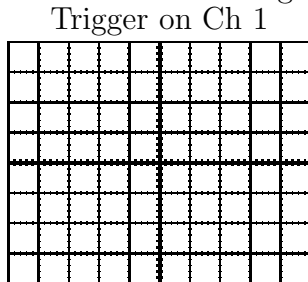
Repeat the same exercise, but set the frequencies further apart:



$$f_1 = \underline{\hspace{2cm}}$$

$$f_2 = \underline{\hspace{2cm}}$$

Now set one frequency to twice the other, and repeat. Can you explain what you observe? Try other ratios of small integers (e.g., 3:2, 3:1, etc).



$$f_1 = \underline{\hspace{2cm}}$$

$$f_2 = \underline{\hspace{2cm}}$$